

# Commercial Laundry CHP with IR 70 kW Microturbines

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## Commercial Laundry located in Southern California



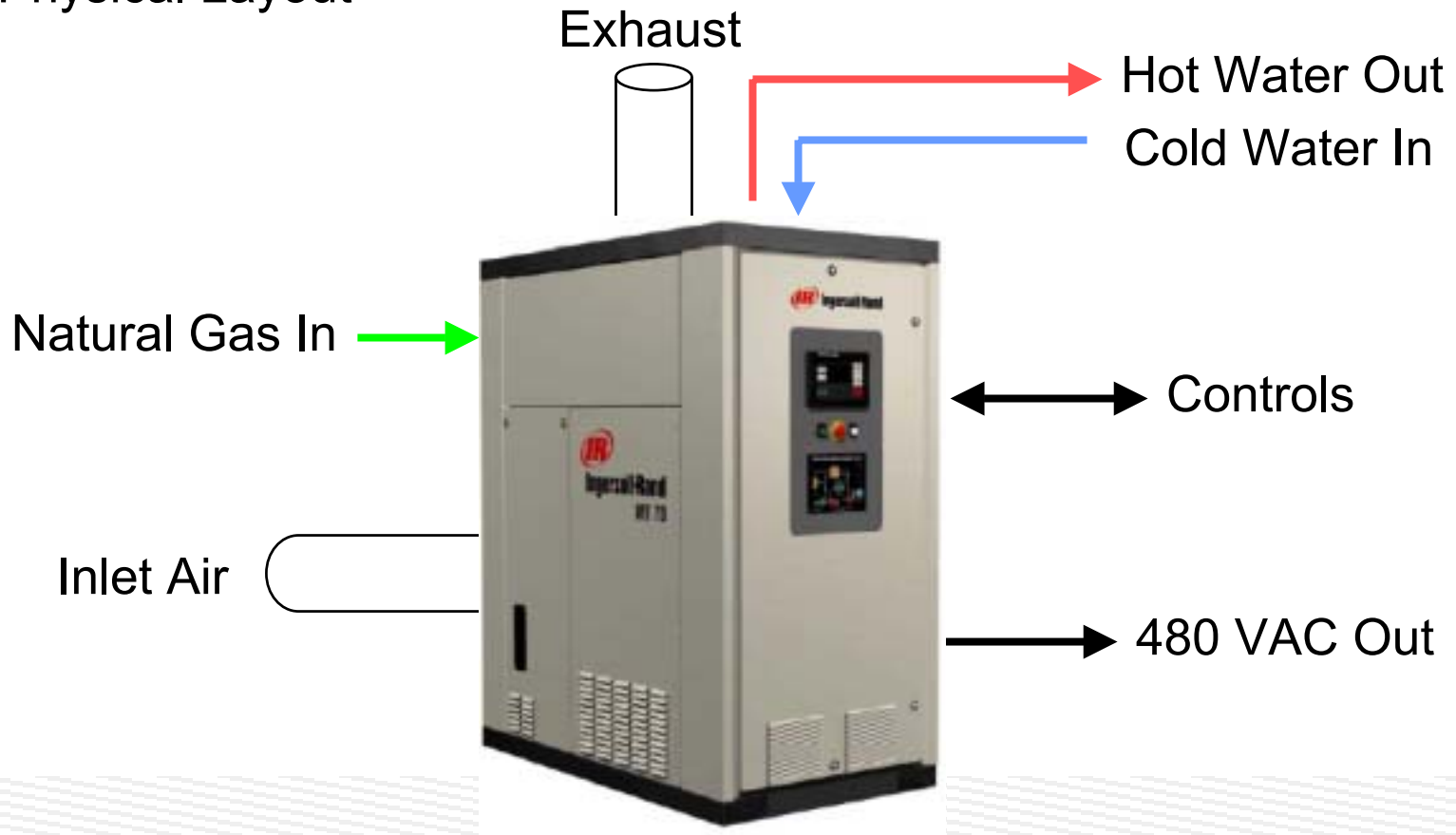
- 2 Ingersoll-Rand 70 kW induction units
- 5 days per week, 16 hours per day operation
- Base load electrical
- Delivers 160°F water to hot water tank
- Generation facility owned and operated by energy services company (Simmax)

## Commercial Laundry located in Northeast US

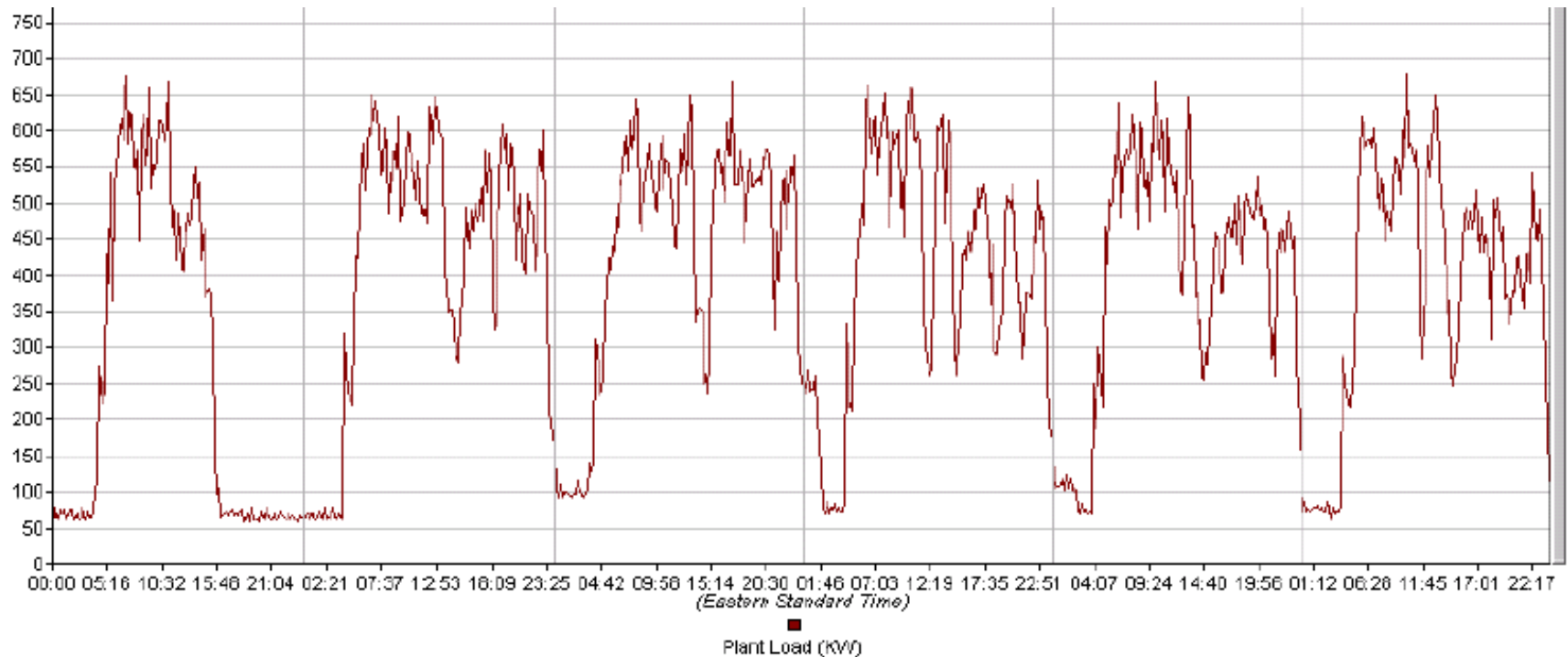


- 6 Ingersoll-Rand 70kW induction units
- 116 hours per week operation
- Electrical Base load and Demand Management
- Ground water heating plus hot water circuit temperature
- Generation facility customer owned and operated

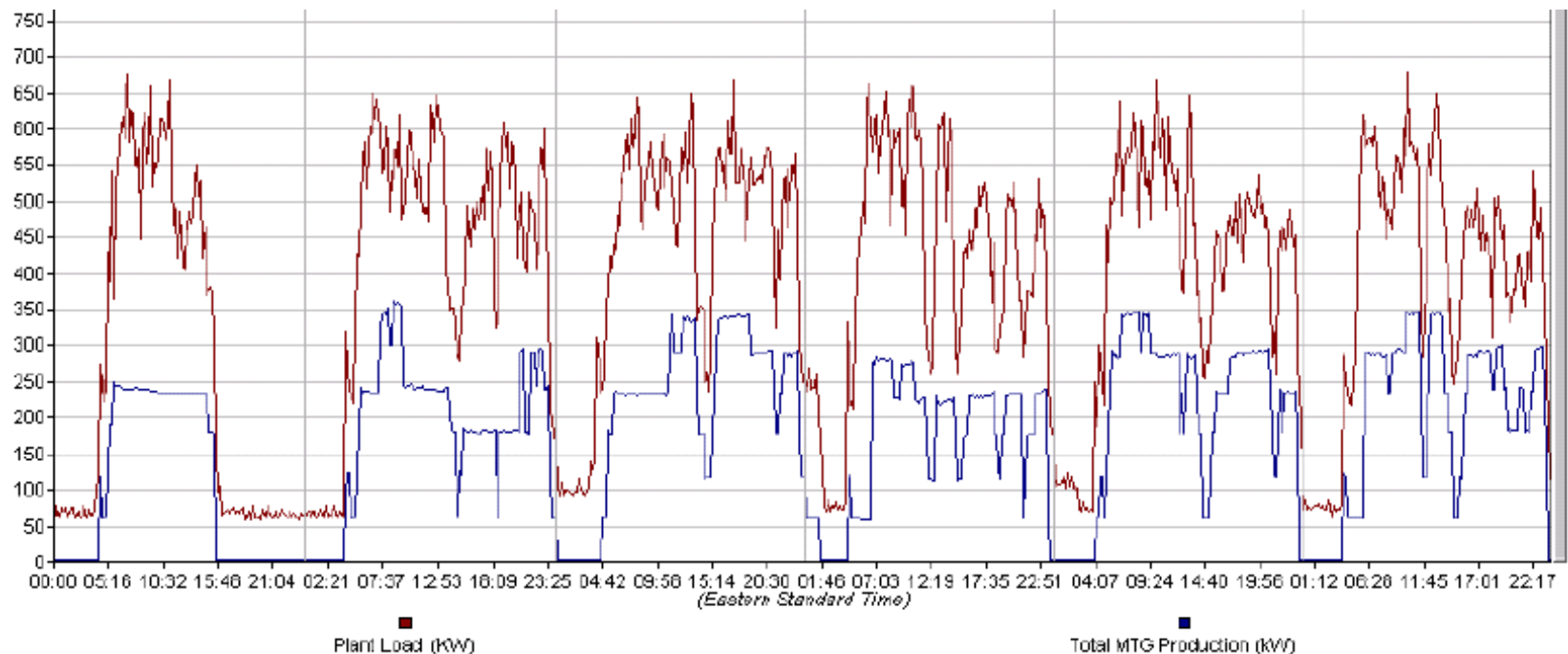
## Physical Layout



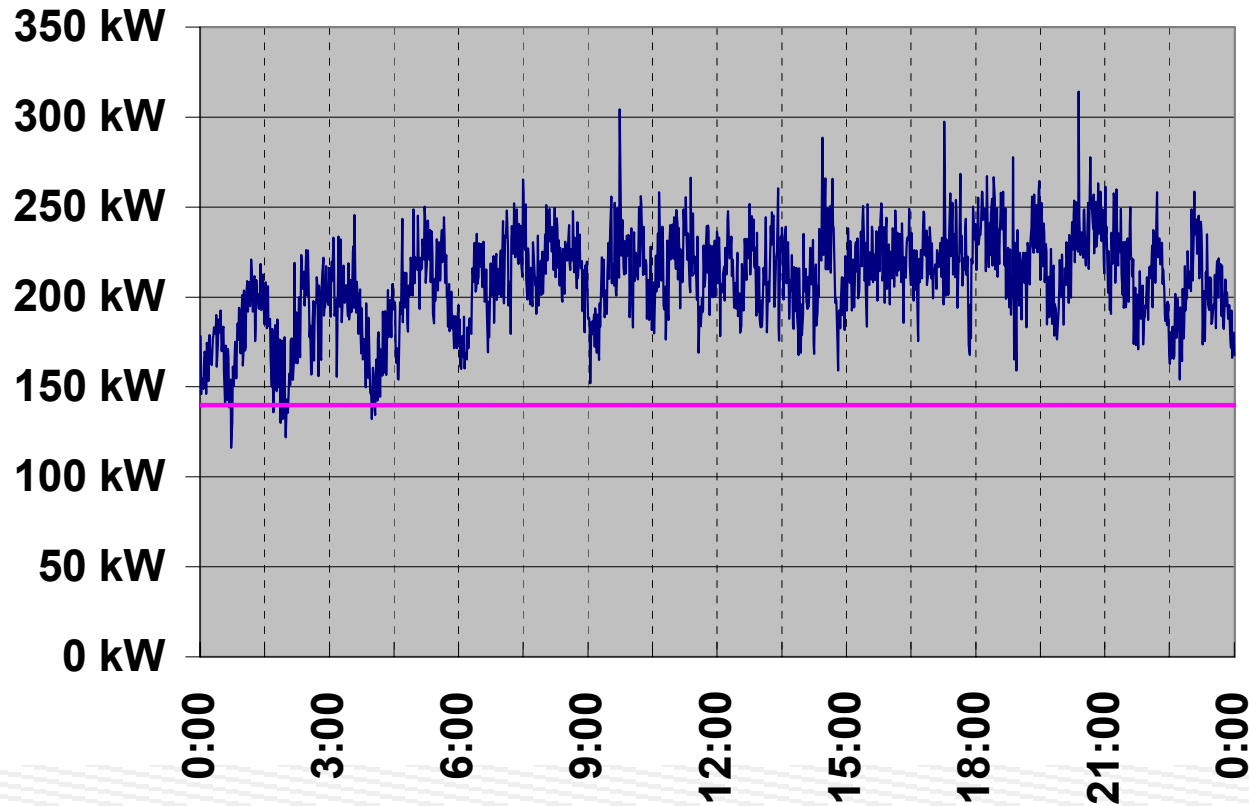
## Electric Demands Change Due to Laundry Type and Batch Processing



### Load Controller Monitors Import Power From Utility And Dispatches Microturbines As Needed To Minimize Import



**Two 70 kW Microturbines Operate Continuously From 5 am to 11 pm**



- **Tempered Water (90°F - 105°F)**

- Typically generated by waste water shell & tube heat exchanger

- **Hot Water (140°F - 170°F)**

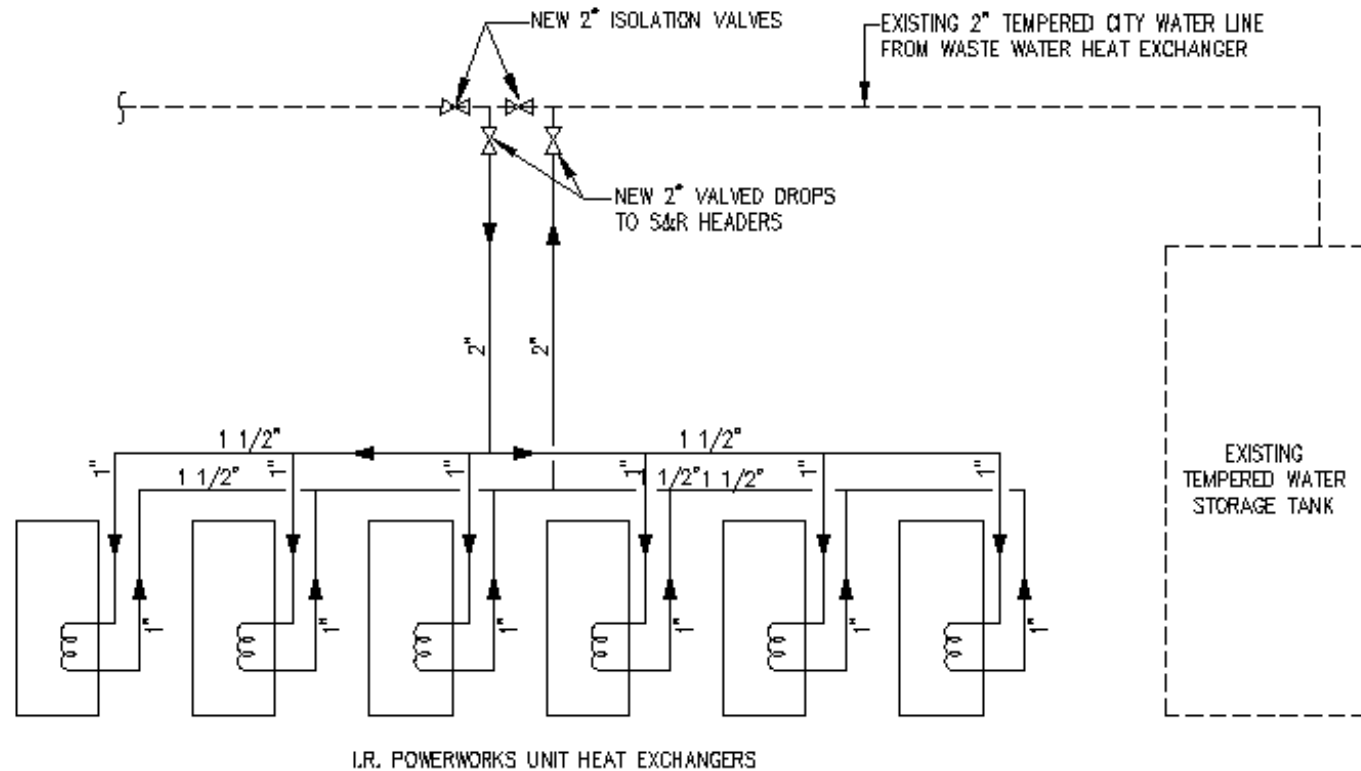
- Water temperature requirements dependent on laundry type

- Health Care industry uniforms and linens
    - Industrial uniforms
    - Hotel & Airline linens
    - Commercial uniforms

- **Clothes Dryers**

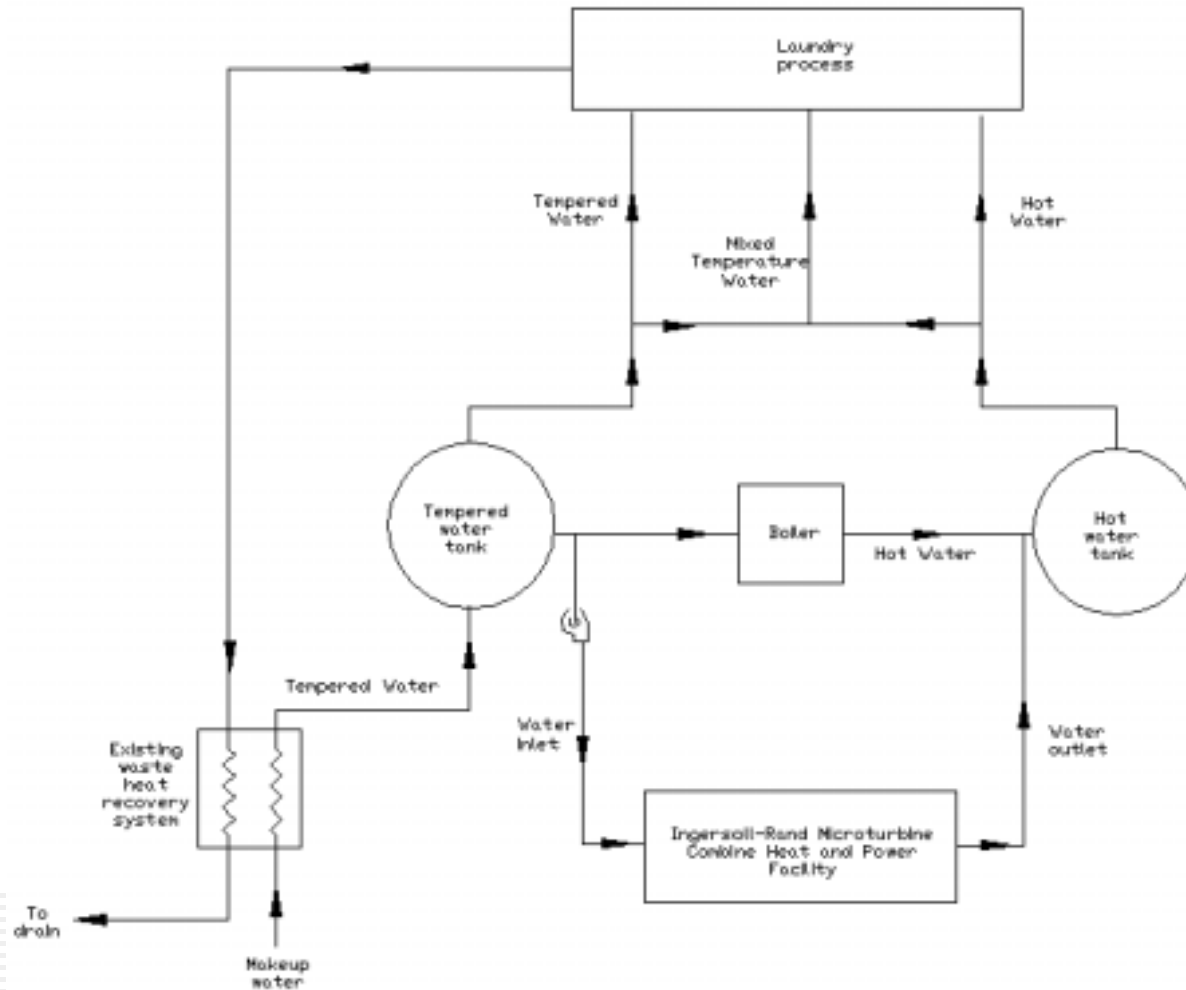
- **Steam Tunnel**





WASTE HEAT RECOVERY SCHEMATIC  
NOT TO SCALE

## Commercial Laundry Hot Water Integration



- Base Load and Demand Management Solutions
  - Import Power Control
  - Time of Day Dispatch
  - Local Monitoring and Control
  - Remote Monitoring and Control
- Co-generation Solutions
  - Integrated hot water heat exchanger and controls
  - Ground water heating to produce tempered water
  - Tempered water heating to produce hot water